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ABSTRACT

Information is presented on the validity, reliability, and normative data of the Ashlock Tests of Visual Perception-Revised, a screening test for perceptual difficulties in preschoolers. Discussed are implications for using the test for screening, diagnosis, and educational planning. (CL)

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THE ASHLOCK TESTS OF VISUAL PERCEPTION--REVISED

by

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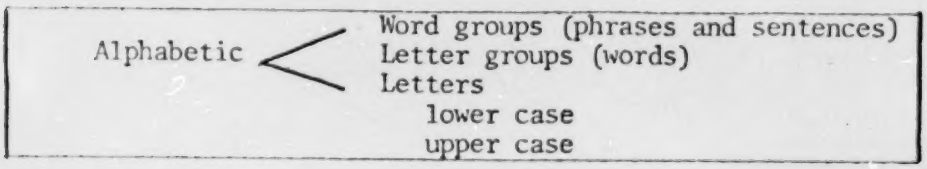
When the first test was done, it was designed for children in the first, second and third grades, As we revised it, it is for pre-schoolers (4 and 5-year-olds).

I think one of the basic problems in testing visual perception is the issue of whether visual perception in its pure form can be tested. And I think the best answer is no - it can't. You can't test visual perception in its pure form any more than you can test intelligence in its pure form. So when we look at tests of visual perception, we have to look at what other factors are involved. Does a child have to make a motor response? Does he have to make a verbal response? Does he have to copy? What does he have to do in addition to visually perceiving? Almost all tests involve factors other than perception itself. It has been noted by Kephart and other people that copying is a much more difficult task than perceiving. So a test that calls for copying such as the Bender, or other tests of this nature involve much more than just visual perception. So we have tried in our tests to reduce other factors as much as possible.

Another factor that is involved is, Is there a hierarchy of visual perceptual skills? I strongly suspect there is. Part of my suspicion goes back as far as 1926 with Bates' early studies in which he concluded that the perception of alphabetic material was significantly more difficult than perceiving pictures, or numbers or geometric designs. And I feel, from my experience with children, that this is true. I think you can spend a lot of time teaching a child to differciate between a circle and an oval, between a square and an elongated rectangle and you can teach all these skills very thoroughly, and the child still may not be able to tell the difference between a lower case "d" and a lower case

"b" because perception of lower level stimuli does not insure that the child can deal with alphabetic symbols.

So I am assuming for our tests that there is a hierarchy of skills. In a diagram, reading from bottom to top, the skills could be presented in this way:



I am assuming that the perception of individual letters is at the bottom. Actually even this category can be divided in half, with upper case letters correlating less highly with reading than lower case. And then, more difficult is the perception of groups of letters, which we can call words. And then, higher than that, is the perception of groups of words, which we can call phrases and sentences. And it is on this basis that our tests were designed.

There has been a lot in the literature about the possibility that visual training does not do any good. Frostig, has given a good answer to this problem and speaks as a person who has much experience in working with children. She believes that visual perceptual training is beneficial to those who have problems in this area.

I am not going to get into the problem of whether training on

geometric designs, for instance, transfers to learning how to read. I will confine myself to saying that training in perceiving alphabetic symbols does relate to reading because we are training for the very thing we are teaching. If you are doing your visual perceptual training with alphabetic symbols if is going to help reading.

There are several theories of readiness; I think they can be grouped into three categories. One is maturity, which means that if you wait long enough, the student will learn in spite of you. One is the cultural factor, which I think is important. If you present the child with things relating to his own culture, learning will be easier. I think this has real foundation because what is meaningful for a child is learned easier. The third theory of readiness, which I personally subscribe to, is that readiness is learned, and that you can teach a child to learn how to learn and this is where I think we as teachers are involved.

Another allied problem is that of whether to teach printing. For the last forty years, at least, it has been assumed that teaching a child to print will help him learn to read. It is interesting that during that time period, no significant research has been offered to prove the idea. And I do not believe that printing will help a child to read.

Now I am not saying that tracing letters does not help. But I am saying that if you put in a lot of time and effort in teaching a child to make a manuscript "g" it doesn't necessarily make the child able to read this printed "g" that he sees in a book. Or to make it simpler,

this is a printed "t" but this is what he sees "t." This is a manuscript "a" and this "a" is what the child sees in a book. So I am saying that printing is not going to help much, but I do think that tracing methods such as Fernald's (1943) are useful.

If you would now look at the tests that have been passed out to you. In the original study done in 1963 (Ashlock, 1963), the two last tests, "Test 2: Word Forms" and "Test 3: Phrase Forms" were the only ones used. It was later that I developed "Test 1: Orientation of Letters" to tap a lower level of perception, even though it was predicted that it would have little correlation with reading - especially since capital letters were included.

How to give each test is detailed in the manual included in the jacket given you. Briefly, an item is circled and the child has to pick out the item that matches and circle it. At least he is told to circle it. If he underlines it, X's it, if he does anything to show which is his choice, you accept it. We are not measuring response; we wish to measure perception.

Another problem in testing young children is that they don't follow directions very well. And they skip things. So the front page is entirely for practice. You use the directions in the manual, but you may supplement with any directions you need as long as you are practicing on the first page. The first page does not count in computing the score. Just work with the youngsters until they get the idea.

Then, once you start the test itself, you start timing the children.

Now the problem with the timed test is that the slower youngsters are cut off before you see what they can do on the more difficult items. So what we do is simply record how long it takes each child to do the test. So we have separate norms. You may find out if the child's perception is adequate and if his perceptual speed is adequate.

I want to stress this point because there are children receiving perceptual training whose perception is perfect, if they could take all day to do each perceptual task. We need three types of perceptual training.

1. Training for those with poor visual perception.
2. Training for those whose visual perception is fine but are so slow they can't keep up.
3. Training for those who have both problems.

Now another problem we have with small children is that they skip things. They don't just skip an item - they skip columns and pages. So when the examiner picks up the child's booklet, he records the time and looks quickly through the booklet to see if anything has been skipped. If the child did skip any, the examiner says, "It looks like you skipped this one. Can you do it? This one?" The examiner starts timing again, because he has to record how much extra time is used. If the child says "No, I can't do it," the item is scored "R" for refused. We don't score it as omitted, because we called the child's attention to it. This is very necessary if you work with little children because with older children you assume that what they skipped they didn't know. You cannot make that assumption with small children.

So you can score the tests to see if there are perceptual difficulties with letter forms, or letter groups (words) or word groups(phrases).

Now let us turn to the technical data.

Item Analysis

Table I gives point-biserial correlations for items in each of the tests. These correlations range from .368 to .757, and all but two are above .4.

TABLE I
Item Analysis

N=321

ITEM*	PT-BISER 1	PT-BISER 2	PT-BISER 2
9	0.461	0.441	0.505
10	0.428	0.571	0.563
11	0.542	0.425	0.456
12	0.686	0.660	0.513
13	0.574	0.541	0.542
14	0.666	0.640	0.521
15	0.693	0.648	0.568
16	0.586	0.647	0.589
17	0.368	0.439	0.528
18	0.658	0.677	0.659
19	0.540	0.511	0.471
20	0.533	0.574	0.663
21	0.619	0.667	0.668
22	0.740	0.606	0.589
23	0.537	0.542	0.681
24	0.606	0.645	0.523
25	0.619	0.664	0.581
26	0.598	0.613	0.566
27	0.678	0.569	0.625
28	0.383	0.549	0.569
29	0.638	0.655	0.619
30	0.613	0.653	0.647
31	0.580	0.703	0.655
32	0.657	0.573	0.734
33	0.704	0.711	0.629
34	0.529	0.695	0.650
35	0.526	0.681	0.678
36	0.463	0.713	0.637
37	0.496	0.676	0.757
38	0.665	0.603	0.741
39	0.700	0.660	0.670
40	0.541	0.692	0.705
41		0.723	0.723
42		0.690	0.675
[illegible]		0.765	0.463
44		0.724	0.708
45		0.597	0.676
46		0.713	0.609

*First 8 items are sample items on each test

Reliability

Reliability and standard error of measurement are given for each of the tests in Table II. Reliability seems to be acceptably high and standard error of measurement acceptably low in each instance.

TABLE II
Reliability and
Standard Error of Measurement

N=321

Test	KR_{20}	SE_m
1	.93	1.27
2	.96	2.09
3	.94	2.66

Validity

The Ashlock Tests of Visual Perception--Revised were administered to 64 children at the end of kindergarten and these same children were given the Gates-MacGinitie Reading Tests (Primary A, FormI) (Gates-MacGinitie, 1965), a year later at the end of first grade. Table III summarizes the results obtained. "Test 2, Word Forms," and "Test 3, Phrase Forms," correlated significantly with both "Comprehension" and "Vocabulary" on the Gates-MacGinitie. "Test 1, Orientation of Letters," however, does not correlate with either "Comprehension" or "Vocabulary," as was expected.

TABLE III
Predictive Validity
Ashlock Tests and Gates MacGinitie*

N=64

Variables	
Test 1 + Comprehension	.09
Test 2 + Comprehension	.43*
Test 3 + Comprehension	.57*
Test 1 + Vocabulary	.04
Test 2 + Vocabulary	.39*
Test 3 + Vocabulary	.36*

$p < .01$

* Ashlock tests given in Kindergarten,
Gates-MacGinitie given at end of first grade.

Normative Data

The normative group was sampled from a suburban area of metropolitan Chicago. An effort was made to obtain a cross section of the population, so that all races and socioeconomic levels would be represented. Table IV gives a description of the normative sample in terms of sex. Age range in the sample was from 4 to 8 and 5 to 11.

TABLE IV
Description of Normative Sample

Number Boys	Number Girls
167	154

Norms

Table V presents cutting scores for the Ashlock Tests of Visual Perception--Revised. These scores would enable the examiner to identify either the lowest 15 or 30 percent of children in respect to visual perception.

TABLE V
Cutting Scores for Ashlock Tests of Visual Perception

Test	15%	30%
1	10	6
2	12	6
3	12	5

Cutting times are given for the Ashlock Tests of Visual Perception--Revised in Table VI. These scores would enable the examiner to identify either the lowest 15 or 30 percent of children in respect to visual perceptual speed.

TABLE VI
Cutting Time in Minutes for Ashlock
Tests of Visual Perception

Test	15%	30%
1	13	10
2	30	26
3	31	26